

WHAT IS CLAIMED IS:

1. A network address conversion system for enabling access to a node of a private network, having a private IP address, comprising:

a reservation unit for receiving an access reservation demand from an external network node to access a specific node of the private network;

5 an external port value allocation unit for allocating a first external port value to the specific node, and transmitting the first external port value to the external network node;

a mapping table for storing the first external port value; and

10 an address conversion unit for converting the first external port value into a private IP address of the specific node, when the external network node accesses the specific node by using the first external port value.

2. The system of claim 1, wherein the reservation unit deletes the first external port value allocated to the specific node, from the mapping table, when receiving an access reservation cancel demand for the specific node, from the external network node.

3. The system of claim 1, wherein the specific node of the private network includes the private IP address and an internal port value.

4. The system of claim 1, wherein the external network node includes a public IP address and a second external port value.

5. A network address conversion method for enabling access to a specific node of a private network, having a private IP address, comprising the steps of:

receiving an access reservation demand from an external network node
5 to access the specific node of the private network;

allocating a first external port value to the specific node, storing said first external port value in a mapping table, and transmitting said first external port value to the external network node; and

converting said first external port value into a private IP address of the
10 specific node, when the external network node accesses the specific node by using said first external port value.

6. The method according to claim 5, further comprising the steps of:

deleting said first external port value allocated to the specific node, from the mapping table when an access reservation cancel demand for the
5 specific node having the allocated said first external port value, is received from the external network node.

7. The method of claim 5, wherein the specific node of the private network includes the private IP address and an internal port value.

8. The method of claim 5, wherein the external network node includes a public IP address and a second external port value.

9. A recording medium for recording a network address conversion method for enabling access to a specific node of a private network, having a private IP address, the recording medium recording a program for executing on a computer, the steps of:

- 5 receiving an access reservation demand from an external network node to access the specific node of the private network;

allocating an external port value to the specific node, storing the external port value in a mapping table, and transmitting the external port value to the external network node; and

- 10 converting the external port value into the private IP address of the specific node, when the external network node accesses the specific node by using the external port value.